Clarke®

WOODWORKER

BELT & DISC SANDER

MODEL NO: CS4-6D

PART NO: 6500412

OPERATION & MAINTENANCE INSTRUCTIONS

LS1109

INTRODUCTION

Thank you for purchasing this CLARKE product.

Before attempting to use this product, please read this manual thoroughly and follow the instructions carefully. In doing so you will ensure the safety of yourself and that of others around you, and you can look forward to your purchase giving you long and satisfactory service.

GUARANTEE

This product is guaranteed against faulty manufacture for a period of 12 months from the date of purchase. Please keep your receipt which will be required as proof of purchase.

This guarantee is invalid if the product is found to have been abused or tampered with in any way, or not used for the purpose for which it was intended.

Faulty goods should be returned to their place of purchase, no product can be returned to us without prior permission.

This guarantee does not effect your statutory rights.

IN THE BOX

The following should be supplied inside the box. If any parts are missing, please contact your local Clarke dealer.

- 1 x Belt/Disc Sander
- 1 x Sanding Table
- 1 x Tilting Work Table (Fitted)
- 1 x Lower Disc Guard
- 1 x Mitre Guide Assembly
- 1 x 6 mm Hexagon Key
- 1 x Sanding Belt
- 1 x Sanding Disc
- 1 x Fixings Pack

GENERAL SAFETY RULES

1. **ALWAYS l**earn the machines applications, limitations and the specific potential hazards. Read and become familiar with the entire operating manual.
1. **ALWAYS** use a face or dust mask if the operation is particularly dusty.
2. **AIWAYS** check for damage before using the machine, check for alignment of moving parts, breakage of parts, and any other condition that may affect the machines operation. Damage should be properly repaired or the part replaced. If in doubt, **DO NOT** use the machine. Consult your local dealer.
3. **ALWAYS** disconnect the machine from the power supply before servicing and when changing accessories.
4. **ALWAYS** wear safety goggles, manufactured to the latest European Safety Standards. Everyday eyeglasses do not have impact resistant lenses, and are not safety glasses.
5. **ALWAYS** keep work area clean. Cluttered areas and benches invite accidents.
6. **ALWAYS** ensure that adequate lighting is available. Ensure that lighting is placed so that you will not be working in your own shadow.
7. **ALWAYS** keep children away. All visitors should be kept a safe distance from the work area, especially when the machine is being used.
8. **ALWAYS** maintain machine in top condition. Keep tools/machines clean for the best and safest performance. Follow maintenance instructions.
9. **ALWAYS** handle with extreme care and do not carry the tool/machine by its electric cable, or pull on the cable to disconnect it from the power supply.
10. **ALWAYS** ensure the switch is off before plugging in to mains. Avoid accidental starting.
11. **ALWAYS** concentrate on the job in hand, no matter how trivial it may seem. Be aware that accidents are caused by carelessness due to familiarity.
12. **ALWAYS** keep your proper footing and balance at all times - don't overreach. For best footing, wear rubber soled footwear. Keep floor clear of oil, scrap wood, etc.
13. **ALWAYS** dress properly. Loose clothing or jewellery may get caught in moving parts. Wear protective hair covering to contain long hair.
14. **ALWAYS** guard against electric shock. Avoid contact with earthed surfaces - pipes, radiators etc.

15. **NEVER** operate machine while under the influence of drugs, alcohol or any medication.
16. **NEVER** leave machine running unattended. Turn power off. Do not leave the machine until it comes to a complete stop.
17. **NEVER** force the machine, it will do a better and safer job at the rate for which it was designed.
18. **NEVER** use power tools in damp or wet locations or expose them to rain. Do not use in an explosive atmosphere (around paint, flammable liquids etc.). Avoid dangerous environments.
19. If the tool begins to make an abnormal noise, or produce excessive vibrations, smoke or burning odour, turn the tool off immediately and do not operate, until repaired.

EXTRA PRECAUTIONS FOR BELT/DISC SANDERS

1. **ALWAYS** wear ear protectors/defenders when using this machine.
2. **ALWAYS** wear a dust mask when using this machine. Be aware that harmful or toxic dusts could be produced when sanding some woods.
3. **ALWAYS** use the table to support the workpiece.
4. **ALWAYS** check to ensure the table and attachments are secure before starting.
5. **ALWAYS** maintain a clearance of 2-3mm between table and sanding disc.
6. **ALWAYS** hold the workpiece firmly so that it cannot be torn from your hands.
7. **ALWAYS** feed the workpiece against the direction of rotation of the disc. i.e the LEFT side of the disc.
8. **ALWAYS** keep the mains cable well away from the machine and ensure an adequate electrical supply is close at hand so that the operation is not restricted by the length of the cable.
9. **ALWAYS** use a dust extraction device, properly connected to the dust extraction port.
10. **ALWAYS** ensure that nails or foreign objects have been removed from a workpiece beforehand. Nails etc. will destroy the belt or disc.
11. **NEVER** allow the ventilation slots in the motor to become blocked.
12. **NEVER** sand pieces which cannot be held firmly by hand.

ELECTRICAL CONNECTIONS

WARNING! Read these electrical safety instructions thoroughly before connecting the product to the mains supply.

Before switching the product on, make sure that the voltage of your electricity supply is the same as that indicated on the rating plate. This product is designed to operate on 230VAC 50Hz. Connecting it to any other power source may cause damage.

This product may be fitted with a non-rewireable plug. If it is necessary to change the fuse in the plug, the fuse cover must be refitted. If the fuse cover becomes lost or damaged, the plug must not be used until a suitable replacement is obtained.

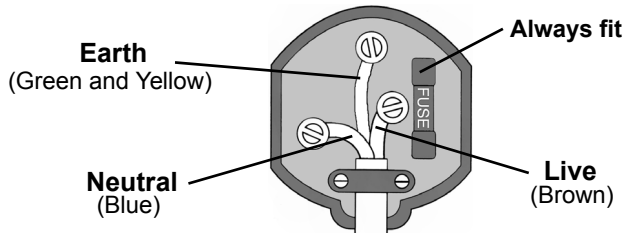
If the plug has to be changed because it is not suitable for your socket, or due to damage, it should be cut off and a replacement fitted, following the wiring instructions shown below. The old plug must be disposed of safely, as insertion into a mains socket could cause an electrical hazard.

WARNING! The wires in the power cable of this product are coloured in accordance with the following code:
Blue = Neutral Brown = Live Yellow and Green = Earth

If the colours of the wires in the power cable of this product do not correspond with the markings on the terminals of your plug, proceed as follows.

- The wire which is coloured **Blue** must be connected to the terminal which is marked **N** or coloured **Black**.
- The wire which is coloured **Brown** must be connected to the terminal which is marked **L** or coloured **Red**.
- The wire which is coloured **Yellow and Green** must be connected to the terminal which is marked **E** or ⏚ or coloured **Green**.

Plug must be BS1363/A approved.

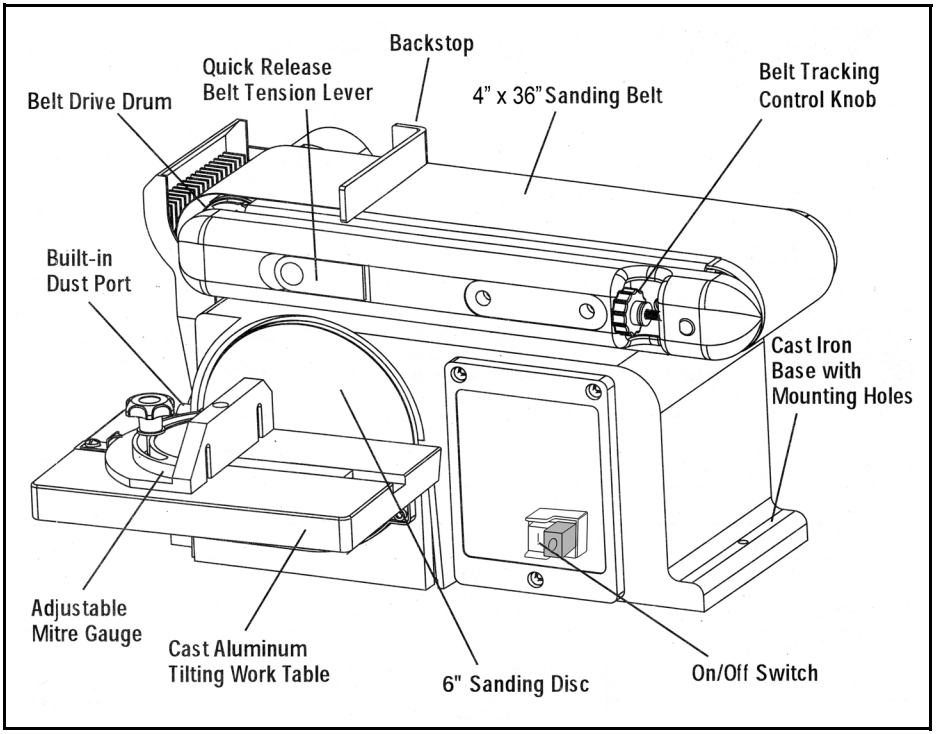


Ensure that the outer sheath of the cable is firmly held by the clamp

We strongly recommend that this machine is connected to the mains supply via a Residual Current Device (RCD)

If in any doubt, consult a qualified electrician. DO NOT attempt any repairs yourself.

OVERVIEW



Sanding operations are inherently dusty. It is strongly recommended that users use a dust-collection system when using this belt & disc sander. The use of a mask or respirator is still recommended even when a dust-collection system is in use.

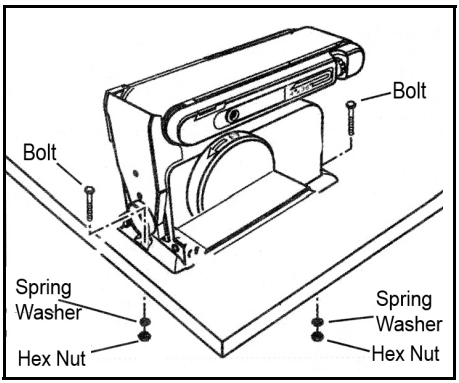
ASSEMBLY

CAUTION: THE SANDER MUST ASSEMBLED BEFORE USE. DO NOT PLUG UNIT INTO POWER SOURCE UNTIL THE UNIT HAS BEEN COMPLETELY ASSEMBLED.

MOUNTING THE SANDER TO A WORKBENCH

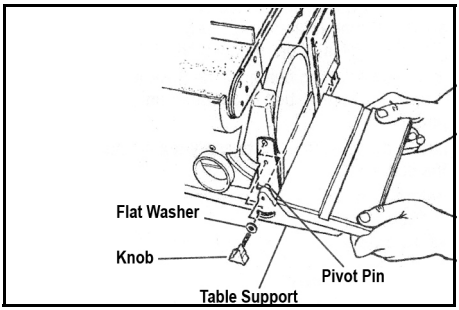
Before attempting to use this sander, it should be properly mounted to a workbench or stand

1. Position the sander on the workbench where you intend to use it.
2. Mark the workbench through the mounting holes located in the sander base. Drill holes in the workbench at the marks.
3. Use long bolts, spring washers and nuts (not supplied), to secure the sander to the workbench as shown.



MOUNTING THE TILTING WORK TABLE ASSEMBLY

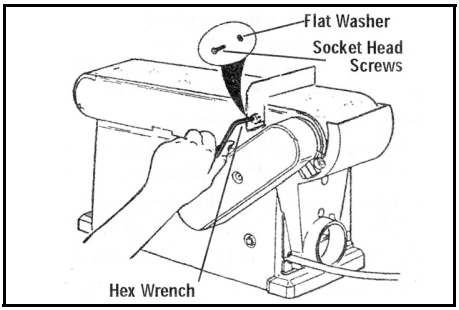
1. Position table-support bracket so that the "pivot pin" fits into the corresponding hole on the sander frame and the radius slot aligns with the threaded hole in the frame.
2. Place washer on threaded shaft of knob, insert through radius slot, and tighten into threaded hole.
3. Adjust table to angle desired for sanding task.



4. To avoid trapping the workpiece or your fingers between the table and disc, adjust the position of the table on it's mounting bracket to maintain a gap of no more than 2 mm.

INSTALLING THE BACKSTOP

1. Position the backstop against the belt frame so that the slot aligns with threaded hole in frame.
2. Secure the backstop to frame with 2 x socket head screws, washers as shown. Do not overtighten.
   - The gap between the sanding belt and the backstop should be no more than 2mm.

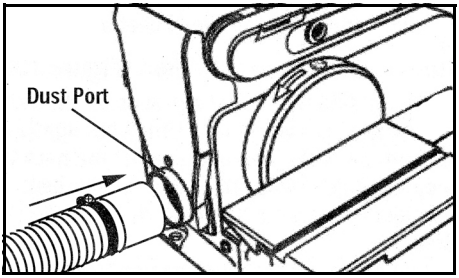


ATTACHING A DUST COLLECTION HOSE

This sander is equipped with a 2½" (60 mm) diameter dust port that can be connected to a vacuum or dust-collection system.

1. Place a 2½" ID diameter hose over the dust port.

Secure hose in place with a hose clamp.

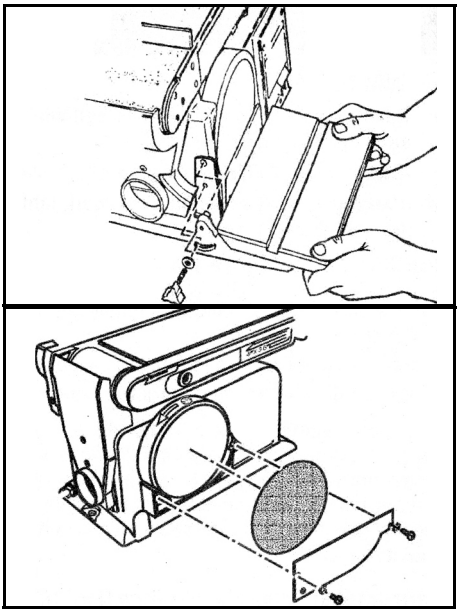


CHANGING THE SANDING DISCS

WARNING: TURN THE POWER OFF AND REMOVE THE PLUG FROM THE OUTLET BEFORE CHANGING THE ACCESSORIES.

CAUTION: 'HOOK & LOOP' SANDING DISCS CANNOT BE USED WITH THIS SANDER!

1. Remove mitre gauge and work table assembly.
2. Remove the disc guard screws and disc guard.
3. Remove sanding disc from disc plate. Sanding discs are attached to the plate using a pressure-sensitive adhesive
4. Ensure the disc plate is clean.
5. Peel backing away from the new sanding disc.
6. Align perimeter of disc with plate and press disc firmly into position on plate, leaving no loose edges.
7. Replace the disc guard, disc guard screws and work table.



CONSUMABLES

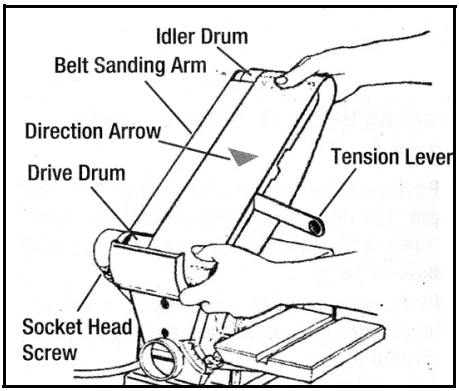
Sanding discs are available from your Clarke dealer.

Grit	Part number
Fine	6502097
Medium	6500809
Course	6502102

CHANGING THE SANDING BELTS

CAUTION: CHECK THE INSIDE OF THE BELT FOR A "DIRECTION ARROW". IF PRESENT, INSTALL THE BELT WITH THE ARROW POINTING IN THE SAME DIRECTION AS THE DIRECTION INDICATOR ON THE HOUSING.

1. Loosen the socket head screw using the 6 mm hex wrench provided.
2. Raise the belt sanding arm as shown.
3. Slide out one end of the tension lever as shown to release belt tension.
4. Remove the tray located on the bottom of the belt sanding arm by loosening the two screws on the back of the belt sanding arm.



5. Slide the sanding belt off of the drive and idler drums.
6. Slide new sanding belt over the drive and idler drums. Ensure the belt is centred on both drums and is the right way round.
7. Return the tension lever into its original positiom to apply tension to the belt.
8. Replace the tray and tighten the two screws on the back of the belt sanding arm.
9. Lower the belt sanding arm and tighten the socket head screw using the 6mm hex wrench provided.

CONSUMABLES

Sanding Belts are available from your Clarke dealer.

Grit	Part number
Fine	6502096
Medium	6500808
Course	6502101

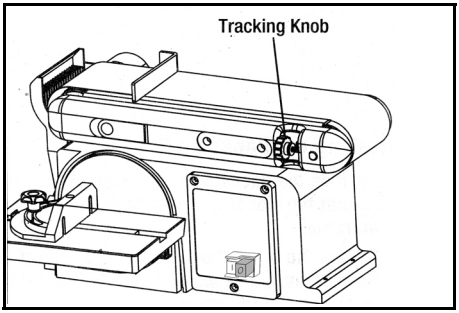
10. Before using, check belt tracking as described in the next section and adjust as necessary.

BELT TRACKING

The belt-tracking adjustment is set at the factory so that the abrasive belt will run true on the drums. If, however, the belt should track to one side or the other, an adjustment can be made by turning the tracking knob.

- Turning the knob clockwise will cause the belt to track to the right (towards the disc sander).
- Turning the knob counter-clockwise will cause the belt to track to the left side of the machine.

TO TRACK THE SANDING BELT



1. Rotate the sanding arm to the desired position and tighten socket head screw to secure.
2. Turn power switch ON,
3. Note whether the belt tends to wander off its track, and to which side (left or right) of the sander.
   - If the sanding belt does not move to either side, it is tracking properly.
   - If the sanding belt moves to the right (disc side of the sander), turn the tracking knob counter clockwise ¼ turn.
   - If the sanding belt moves to the left (away from the disc), turn the tracking knob clockwise ¼ turn.
4. Readjust tracking knob another ¼ turn, as necessary.

OPERATION

WARNING: NEVER TOUCH THE SANDING DISC OR BELT WHILE IT IS MOVING, DO NOT TOUCH THE WORK PIECE AFTER SANDING, IT COULD BE VERY HOT.

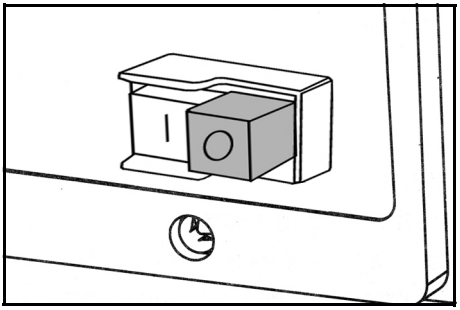
WARNING: ALWAYS WEAR SAFETY GLASSES WHEN OPERATING THE SANDER

CAUTION: ALWAYS MAKE SURE THE WORK TABLE AND BACKSTOP ARE PROPERLY ADJUSTED AND SECURE BEFORE USE.

ON/OFF BUTTONS

The On/Off buttons are located on the front of the sander.

1. Press the GREEN button (I) to turn the sander on.
2. Press the RED button (0) to turn the sander off.
   - If the power supply is interrupted for any reason, the unit will automatically switch off. When power is restored, simply press the GREEN button to resume work.



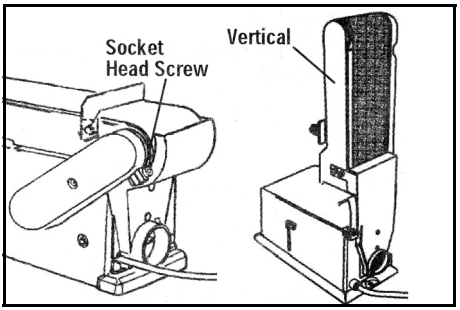
BELT SANDING

HORIZONTAL AND VERTICAL SANDING

The sanding belt can be used in the vertical or horizontal position, depending on operator needs and the workpiece.

To change from one position to the other:

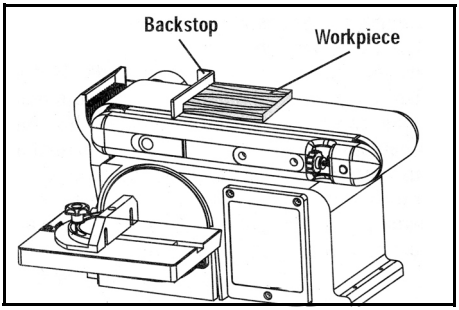
1. Loosen the socket head screw using the 6 mm hex wrench provided.



2. Manually move the sanding belt to the desired angle and retighten the socket head screw.

SURFACE SANDING ON THE BELT

When sanding flat broad surfaces on the belt hold the workpiece firmly on the surface of the belt and against the backstop, keeping fingers away from the sanding belt. Consider using a push or hold-down stick.



- Use extra caution when sanding very thin pieces, and when sanding extra long pieces, remove the backstop.

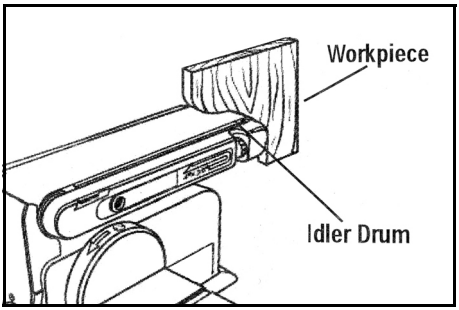
NOTE: When using the sander without the backstop, ensure that you you have a firm hold on the workpiece at all times and take extra care.

- Apply only enough pressure to allow the sanding belt to remove material.

SANDING CURVED PIECES

When sanding inside-curves on the belt sander, always sand on the idler drum end of the belt.

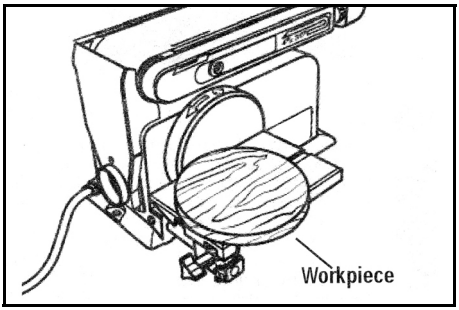
1. Hold the workpiece firmly, keeping fingers away from the sanding belt. Keep the curve pressed firmly against the idler drum, moving the work evenly back and forth across the drum.



SANDING DISC

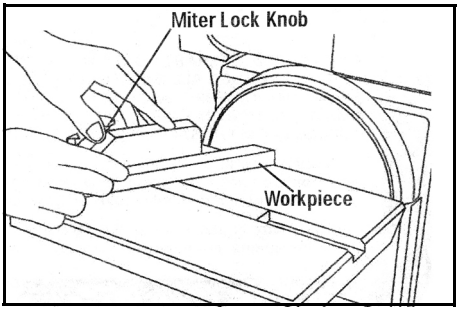
SANDING OUTSIDE CURVES

Always sand outside curves using the sanding disc and moving the workpiece from the left side of centre, as shown. Keep the curve pressed firmly against the sanding disc, moving the work evenly from the left side of the sanding disc. Be sure to hold the workpiece firmly against the surface of the table.



MITRE GAUGE - DISC SANDER

A mitre gauge can be used on the work table, as shown. The mitre gauge head can be set anywhere up to 60° (right or left) by loosening the lock-knob, setting the mitre gauge head to the desired angle, and tightening the lock-knob.



SANDING SMALL SURFACES USING THE MITRE GAUGE

Use of the mitre gauge is recommended for sanding small end surfaces on the sanding disc.

NOTE: Always move the workpiece across the left side (dust chute end of machine) of the sanding disc and be sure to hold the workpiece down tightly onto the table surface.

MAINTENANCE

WARNING: ALWAYS DISCONNECT TOOL FROM POWER SOURCE BEFORE MAKING ANY ADJUSTMENTS, INSTALLING OR PERFORMING MAINTAINENCE.

CAUTION: TOOL SERVICE MUST BE PERFORMED ONLY BY QUALIFIED REPAIR PERSONNEL. SERVICE OR MAINTENANCE PERFORMED BY UNQUALIFIED PERSONNEL COULD RESULT IN A RISK OF INJURY. WHEN SERVICING A TOOL, USE ONLY IDENTICAL REPLACEMENT PARTS. FOLLOW INSTRUCTIONS IN THE MAINTENANCE SECTION OF THIS SERVICE MANUAL. USE OF UNAUTHORISED PARTS OR FAILURE TO FOLLOW MAINTENANCE INSTRUCTIONS MAY CREATE A RISK OF ELECTRIC SHOCK OR INJURY.

1. Clean the machine, belt and disc after each use.
2. Keep the machine dry, clean and free from oil and grease.
3. Store the tool in a safe and dry place, out of reach of children.
4. During normal use, sanding belts and disc can become loaded with sanding debris. Use a stick belt cleaner (available at most hardware stores) to remove build-up.

SPECIFICATIONS

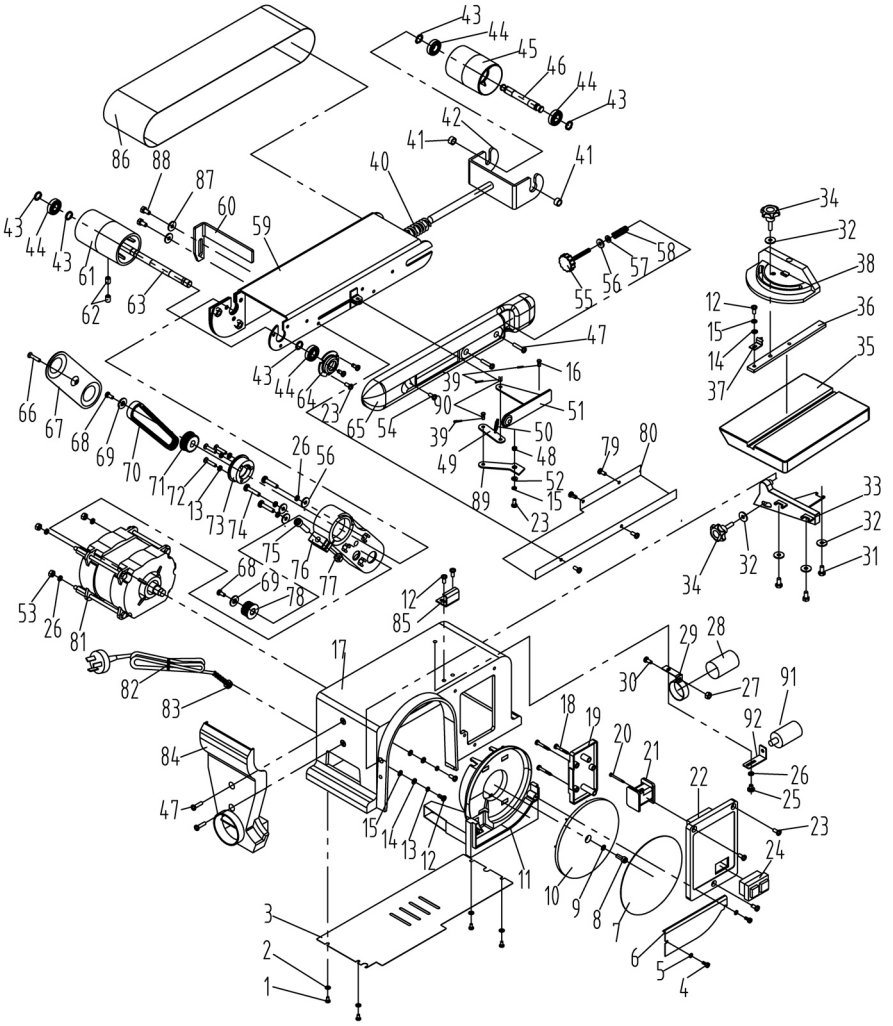
Motor	230V, 50Hz, 1ph
Input Power	370 Watts
Fuse Rating	13A
Sanding Disc Diameter	6" (150 mm)
Sanding Belt Size (W x L)	4" x 36" (914 x 100 mm)
Sanding Belt Speed	450m/min
Sanding Table Dimensions (L x W)	225 x 160 mm
Table Angle Range	0-45 degrees
Mitre Guide Angle Range	0-60 degrees
Net Weight	18.65 kg
Dimensions (LxWxH)	447 x 363 x 255 mm
Sound Pressure Level dB L_{pA}	91.1 dB (A)
Sound Power Level dB L_{WA}	79.9 dB (A)
Vibration	3.34 m/s^2
Part No	6500412

PARTS AND SERVICING

For Parts & Servicing, please contact your nearest dealer, or CLARKE International, on one of the following numbers.

PARTS & SERVICE TEL: 020 8988 7400
PARTS & SERVICE FAX: 020 8558 3622
or e-mail as follows:
PARTS: Parts@clarkeinternational.com
SERVICE: Service@clarkeinternational.com

EXPLODED DIAGRAM & PARTS LIST



EXPLODED DIAGRAM & PARTS LIST

NO	DESCRIPTION	PART NO
1	Philips Screw M4x6	AWNCS46D01
2	Flat Washer D4	AWNCS46D02
3	Base Cover	AWNCS46D03
4	Philips Screw St4.2x10	AWNCS46D04
5	Toothed Lock Washer D4	AWNCS46D05
6	Disc Cover	AWNCS46D06
7	Disc Paper	AWNCS46D07
8	Hex Socket Round Head Screw M6x16	AWNCS46D08
9	Toothed Lock Washer D6	AWNCS46D09
10	Disc	AWNCS46D10
11	Sanding Disc Guard	AWNCS46D11
12	Phillips Screw M5x8	AWNCS46D12
13	Spring Washer D5	AWNCS46D13
14	Flat Washer D5	AWNCS46D14
15	Toothed Lock Washer D5	AWNCS46D15
16	Disc Rotation Label 5x10	AWNCS46D16
17	Base	AWNCS46D17
18	Phillips Screw St4.2x20	AWNCS46D18
19	Wire Connection Box Cover	AWNCS46D19
20	Phillips Screw St2.9x28	AWNCS46D20
21	Relay	AWNCS46D21
22	Wire Connection Box	AWNCS46D22
23	Phillips Screw M5x10	AWNCS46D23
24	Power Switch	AWNCS46D24
25	Phillips Screw M6x8	AWNCS46D25
26	Spring Washer D6	AWNCS46D26
27	Hex Nut,type I M5	AWNCS46D27
28	Capacitor	AWNCS46D28
29	Capacitor Support	AWNCS46D29
30	Phillips Screw M5x12	AWNCS46D30
31	Hex Bolt M6x12	AWNCS46D31
32	Big Flat Washer D6	AWNCS46D32
33	Work Table Support Angle Plate	AWNCS46D33
34	Miter Gauge Knob	AWNCS46D34
35	Work Table	AWNCS46D35

NO	DESCRIPTION	PART NO
36	Cotter Pin	AWNCS46D36
37	Miter Gauge Knob	AWNCS46D37
38	Mitre Gauge	AWNCS46D38
39	Cotter Pin	AWNCS46D39
40	Tension Spring	AWNCS46D40
41	Bushing	AWNCS46D41
42	Joint Lever	AWNCS46D42
43	Screw Bushing D12	AWNCS46D43
44	Bearing 101	AWNCS46D44
45	Idler Roller	AWNCS46D45
46	Idler Shaft	AWNCS46D46
47	Phillips Screw M5x20	AWNCS46D47
48	Bushing	AWNCS46D48
49	Connecting Rod	AWNCS46D49
50	Tension Spring	AWNCS46D50
51	Tension Knob	AWNCS46D51
52	Big Flat Washer D5	AWNCS46D52
53	Hex Nut,type I M6	AWNCS46D53
54	Phillips Screw M5x16	AWNCS46D54
55	Adjust Knob	AWNCS46D55
56	Flat Washer D6	AWNCS46D56
57	Rubber Washer	AWNCS46D57
58	Adjust Spring	AWNCS46D58
59	Belt Support	AWNCS46D59
60	Limiting Plate	AWNCS46D60
61	Driving Roller	AWNCS46D61
62	Hex Socket Round Head Screw M8x12	AWNCS46D62
63	Driving Shaft	AWNCS46D63
64	Bearing Cap	AWNCS46D64
65	Support Cover	AWNCS46D65
66	Phillips Screw M5x10	AWNCS46D66
67	Cog Belt Guard Cover	AWNCS46D67
68	Phillips Screw M5x16	AWNCS46D68
69	Special Locked Washer	AWNCS46D69
70	Cog Belt	AWNCS46D70
71	Driven Pulley	AWNCS46D71
72	Phillips Screw M5x25	AWNCS46D72

EXPLODED DIAGRAM & PARTS LIST

NO	DESCRIPTION	PART NO
73	Bearing Base	AWNCS46D73
74	Phillips Screw M6x25	AWNCS46D74
75	Hex Socket Round Head Screw M8x25	AWNCS46D75
76	Belt Cover	AWNCS46D76
77	Square Nut	AWNCS46D77
78	Motor Arbor Wheel	AWNCS46D78
79	Phillips Screw M5x6	AWNCS46D79
80	Belt Protection Plate	AWNCS46D80
81	Motor Assy	AWNCS46D81
82	Cord	AWNCS46D82
83	Cord Clip	AWNCS46D83
84	Dust Hood	AWNCS46D84
85	Bracket Support	AWNCS46D85
86	Belt	AWNCS46D86
87	Flat Washer D8	AWNCS46D87
88	Hex Cylinder Screw M8x16	AWNCS46D88
89	Tension Pole	AWNCS46D89
90	Roll Pin 5x8	AWNCS46D90
91	Capacitor	AWNCS46D91
92	Capacitor Support	AWNCS46D92
93	Nut M8	AWNCS46D93

DECLARATION OF CONFORMITY

CE

Clarke® INTERNATIONAL

Hemnall Street, Epping, Essex CM16 4LG

DECLARATION OF CONFORMITY

This is an important document and should be retained.

We hereby declare that this product(s) complies with the following directive(s):

2004/108/EC	*Electromagnetic Compatibility Directive.*
2006/42/EC	*Machinery Directive.*
2006/95EC	*Low Voltage Equipment Directive.*
2002/95/EC	*Restriction of Hazardous substances.*

The following standards have been applied to the product(s):

EN 61029-1:2000+A11:2003, EN 55014-1:2006, EN 55014-2:1997+A1:2001,
EN 61000-3-2:2006, EN 61000-3-3:1995+A1:2001+A2:2005.

The technical documentation required to demonstrate that the product(s) meet(s) the requirement(s) of the aforementioned directive(s) has been compiled and is available for inspection by the relevant enforcement authorities.

The CE mark was first applied in: 2008

Product Description:	4 x 6 Belt Disc Sander
Model number(s):	CS4-6D
Serial / batch Number:	6500412
Date of Issue:	12/09/2009

Signed:

J.A. Clarke

Director

CS4-6D Belt Disc sander (rv1) (2)

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